CLAIMS

What is claimed is:

1. A stepping motor, comprising:

a stator blade made of soft magnetic materials and a permanent magnet rotor having a rotor axis and being accommodated within a rotor hole located at a center position of the stator blade,

wherein the stator blade incorporates three narrow grooves therein, each of which is disposed a angle of 120° to one another along radial direction of the rotor, two ends of the narrow grooves being connected with the stator blade such that when a current is present in coils disposed along two sides of the stator blade a magnetic-pole end surface surrounding the rotor hole is formed by a part of the stepping motor between two of the narrow grooves in the stator blade

2. The stepping motor of claim 1, wherein the rotor hole has a vertical cross-section of a concentric circle with the rotor and the distance from each end of each of the narrow grooves to a center of the rotor axis is equal.

3. The stepping motor of claim 1, wherein the rotor hole has a vertical cross-section approximating a circle but for straight-line sections, each of which is perpendicular to a diameter of the rotor, disposed about the rotor hole in positions proximate front-end locations of the narrow grooves in the stator blade.